

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s): PERBELLINI et al.  
Serial No.: 10/542,302  
Filed: July 14, 2005  
For: USE OF RETINOIC ESTERS OF HYALURONIC ACID IN  
TOTIPOTENT STEM CELLS  
Art Unit: Not Yet Assigned  
Examiner: Not Yet Assigned  
Confirmation No.: 7301  
Customer No.: 27623  
Attorney Docket No.: 0002377USU/3061

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

Dear Sir:

In accordance with applicant's duty of disclosure under 37 C.F.R. §1.56, please find attached hereto form PTO-1449 listing information which may be material to the patentability of this application, filed July 14, 2005. This Information Disclosure Statement is being filed:

- Within three (3) months of the filing date of the national application;
- Within three (3) months of the date of entry of the national stage as set forth in 37 C.F.R. §1.491 in an international application;
- Before the mailing date of a first Office Action on the merits;
- After the filing date or date of first Office Action, but before the mailing date of a final action under 37 C.F.R. §1.113, provided that this occurs prior to the issuance of a Notice of Allowance and provided that this I.D.S. is accompanied by either a certification as specified in 37 C.F.R. §1.97(e) or the fee set forth in 37 C.F.R. §1.17(p);

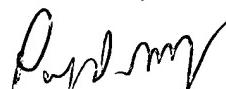
- After the filing date or date of first Office Action, but before the mailing date of a Notice of Allowance under 37 C.F.R. §1.311, provided that this occurs prior to the final action and provided that this I.D.S. is accompanied by either a certification as specified in 37 C.F.R. §1.97(e) or the fee set forth in 37 C.F.R. §1.17(p);
- After the mailing date of a final action under 37 C.F.R. §1.113, provided that this occurs prior to the issuance of a Notice of Allowance and provided that this I.D.S. is accompanied by a certification as specified in 37 C.F.R. §1.97(e) and the fee set forth in 37 C.F.R. §1.17(p); and
- After the mailing date of a Notice of Allowance under 37 C.F.R. §1.311, provided that this occurs prior to or subsequent to the payment of the Issue Fee and provided that this I.D.S. is accompanied by a certification as specified in 37 C.F.R. §1.97(e) and the fee set forth in 37 C.F.R. §1.17(p).
- Filing with RCE Under 37 CFR 1.114, thus no fee is required.

37 C.F.R. 1.98 does not require a copy of U.S. patents or published U.S. patent applications to be included with an information disclosure statement. Accordingly, Applicant is not including a copy of any U.S. patent or published U.S. patent application.

We are also enclosing copies of the non-US publications listed on the attached PTO-1449.

It should be understood that attention has been called to the references that have been deemed to be pertinent to the claimed present invention. In concluding what was pertinent, the criteria employed was considered most appropriate in light of the invention shown in the present application. However, the Examiner or others may deem some other criteria to be just as appropriate or more appropriate. Therefore, the Examiner is respectfully urged to review the listed references and to make the usual careful independent search for other prior art that may be pertinent.

Respectfully submitted,



March 28, 2006

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<b>FORM PTO-1449</b>  <b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b>  (Use several sheets if necessary)	<b>Docket Number (Optional)</b> <b>0002377USU/3061</b>	<b>Application Number</b> <b>10/502,302</b>
	<b>Applicant</b> <b>PERBELLINI et al.</b>	
	<b>Filing Date</b> <b>July 14, 2005</b>	<b>Group Art Unit</b> <b>Not Yet Assigned</b>

## U. S. PATENT DOCUMENTS

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
	WO03/008457A2	1/30/03	PCT	C08B	37/00		

**OTHER DOCUMENTS** (including Author, Title, Date, Pertinent Pages, Etc.)

	McBurney et al. "Control of muscle and neuronal differentiation in a cultured embryonal carcinoma cell line," Vol 299, pp 165-167, <i>Nature</i> September 9, 1982
	Wobus AM. et al. "In vitro differentiation of embryonic stem cells into cardiomyocytes or skeletal muscle cells is specifically modulated by retinoic acid," Vol. 204, pp 36-45, <i>Roux's Arch Dev Biol.</i> , 1994.
	Klug MG. et al. "Genetically Selected Cardiomyocytes from Differentiating Embryonic Stem Cells From Stable Intracardiac Grafts," Vol. 98, pp 216-224, <i>J. Clin Invest.</i> July 1996

EXAMINER

**DATE CONSIDERED**

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP §609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

**CUSTOMER NO.: 27623**

Sheet 2 of 3.

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	Wobus AM. et al. "Retinoic Acid Accelerates Embryonic Stem Cell-Derived Cardiac Differentiation and Enhances Development of Ventricular Cardiomyocytes," Vol. 29, pp 1525-1539, <i>J. Mol Cell Cardiol</i> , 1997.
	Coradini et al. "Hyaluronic Acid As Drug Delivery For Sodium Butyrate: Improvement Of The Anti-Proliferative Activity On A Breast-Cancer Cell Line," Vol. 81, pp 411-416, <i>Int. J. Cancer</i> , 1999.
	Ventura C, Maioli M., "Opioid Peptide Gene Expression Primes Cardiogenesis in Embryonal Pluripotent Stem Cells," Vol. 87, pp 189-194, <i>Circ. Res.</i> , June 27, 2000.

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**OTHER DOCUMENTS** (including Author, Title, Date, Pertinent Pages, Etc.)

	Orlic D. et al. "Bone marrow cells regenerate infarcted myocardium," Vol. 410, pp 701-705, <i>Nature</i> , April 2001.
	Xu C. et al. "Characterization and Enrichment of Cardiomyocytes Derived From Human Embryonic Stem Cells," Vol., 91 pp 501-508, <i>Circ. Res</i> , August 19, 2005.

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